

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of updating a cluster infrastructure version used by a group resident in a clustered computer system of the type including a plurality of nodes, the method comprising:

(A) updating the cluster infrastructure software from a first version to a second version in individual nodes in the clustered computer system while the group is maintained in an active state, wherein the second version of the cluster infrastructure software has different program code from the first version of the cluster infrastructure software;

(B) after the cluster infrastructure software is updated, notifying the group of the update to the cluster infrastructure software; and,

(C) in response to the notification, dynamically updating a cluster infrastructure version used by the group to that of the updated cluster infrastructure software.

2. (Original) The method of claim 1, wherein the updated cluster infrastructure software includes at least one new function, whereby the group has access to the new function subsequent to dynamically updating the cluster infrastructure version used by the group.

3. (Original) The method of claim 1, further comprising notifying all groups resident in the clustered computer system after the cluster infrastructure software is updated.

4. (Original) The method of claim 1, wherein updating the cluster infrastructure software in an individual node comprises shutting down the node, installing cluster infrastructure software on the node, and restarting the node.

5. (Original) The method of claim 4, wherein shutting down the node includes removing a member that is resident on the node from the group and wherein restarting the node includes adding the member to the group.

6. (Original) The method of claim 1, wherein notifying comprises sending a ordered message to the group.

7. (Original) The method of claim 6, wherein notifying comprises sending a membership change message with an adjust version reason code.

8. (Original) The method of claim 1, further comprising verifying that all nodes are active prior to notifying the group.

9. (Original) The method of claim 1, further comprising verifying that the group is not partitioned prior to notifying the group.

10. (Original) The method of claim 1, further comprising verifying that all nodes are capable of running the updated cluster infrastructure version prior to notifying the group.

11. (Currently Amended) An apparatus comprising:

(A) a node configured to participate in a clustered computer system, the node having resident thereon cluster infrastructure software and at least one member of a group; and,

(B) program code resident in the node, the program code configured to notify the member of an update to the cluster infrastructure software from a first version to a second version, and to dynamically update a cluster infrastructure version used by the member to that of the updated cluster infrastructure software; wherein the second version of the cluster infrastructure software has different program code from the first version of the cluster infrastructure software.

12. (Original) The apparatus of claim 11, wherein the updated cluster infrastructure software includes at least one new function, whereby the group has access to the new function subsequent to dynamically updating the cluster infrastructure version used by the node.

13. (Original) The apparatus of claim 11, wherein the notification is made using ordered messaging.

14. (Original) The apparatus of claim 13, wherein the notification is made via a membership change message with an adjust version reason code.

15. (Original) The apparatus of claim 11, wherein the program code is further configured to verify that the node is active prior to notifying the member and, if the node is not active, to return an error message.

16. (Original) The apparatus of claim 11, wherein the program code is further configured to verify that the group is not partitioned prior to notifying the member and, if the group is partitioned, to return an error message.

17. (Original) The apparatus of claim 11, wherein the program code is further configured to determine whether the node is capable of running the updated cluster infrastructure software prior to notifying the member and, if the node is not capable of running the updated cluster infrastructure software, to return an error message.

18. (Currently Amended) A program product, comprising:

(A) program code configured to reside on a node that participates in a clustered computer system and that further has resident thereon cluster infrastructure software and at least one member of a group, the program code configured to notify the member of an update to the cluster infrastructure software from a first version to a second version, and to dynamically update a cluster infrastructure version used by the member to that of the updated cluster infrastructure software; and,

(B) a signal-bearing medium bearing the program code;
wherein the second version of the cluster infrastructure software has different program code from the first version of the cluster infrastructure software.

19. (Original) The program product of claim 18, wherein the updated cluster infrastructure software includes at least one new function, whereby the group has access to the new function subsequent to dynamically updating the cluster infrastructure version used by the node.

20. (Original) The program product of claim 18, wherein the notification is made using ordered messaging.

21. (Original) The program product of claim 20, wherein the notification is made via a membership change message with an adjust version reason code.

22. (Original) The program product of claim 18, wherein the program code is further configured to verify that the node is active prior to notifying the member and, if the node is not active, to return an error message.

23. (Original) The program product of claim 18, wherein the program code is further configured to verify that the group is not partitioned prior to notifying the member and, if the group is partitioned, to return an error message.

24. (Original) The program product of claim 18, wherein the program code is further configured to determine whether the node is capable of running the updated cluster infrastructure software prior to notifying the member and, if the node is not capable of running the updated cluster infrastructure software, to return an error message.

25. (Currently Amended) A cluster computer system, comprising:

(A) a plurality of nodes, each having resident thereon cluster infrastructure software;

(B) a group including a plurality of group members resident on the plurality of individual nodes; and,

(C) program code resident on the plurality of nodes, the program code configured to shutdown and restart individual nodes among the plurality of nodes while maintaining the group in an active state so that the cluster infrastructure software resident on such individual nodes can be updated to incorporate different program code while such individual nodes are shutdown, the program code further configured to notify the group of the update to the cluster infrastructure software after the cluster infrastructure software has been updated in each of the plurality of nodes, and to dynamically update a cluster infrastructure version used by the group to that of the updated cluster infrastructure software.

26. (Original) The clustered computer system of claim 25, wherein the updated cluster infrastructure software includes at least one new function, whereby the group has access to the new function subsequent to dynamically updating the cluster infrastructure version used by the node.

27. (Original) The clustered computer system of claim 25, wherein the notification is made using ordered messaging.

28. (Original) The clustered computer system of claim 27, wherein the notification is made via a membership change message with an adjust version reason code.

29. (Original) The clustered computer system of claim 25, wherein the program code is further configured to verify that the node is active prior to notifying the member and, if the node is not active, to return an error message.

30. (Original) The clustered computer system of claim 25, wherein the program code is further configured to verify that the group is not partitioned prior to notifying the member and, if the group is partitioned, to return an error message.

31. (Original) The clustered computer system of claim 25, wherein the program code is further configured to determine whether the node is capable of running the updated cluster infrastructure software prior to notifying the member and, if the node is not capable of running the updated cluster infrastructure software, to return an error message.